

A New Species of *Pterochelus* (Muricidae) from Santa Barbara, California

BY

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(Plate 25)

RECENTLY TED PHILLIPS, of the Santa Barbara Malacological Society, sent a muricid specimen to me for identification. The shell was taken alive in a fish trawl off Santa Barbara, California, midway in the channel between Anacapa Island and Port Hueneme. As the boat was using a drag net the location is only approximate, as is the depth of 100 fathoms. When I saw the specimen I realized why there had been difficulty in identifying the species, for it is a member of the muricine subgenus *Pterochelus* previously known, with one exception, only from Australia. Had it been collected as a dead shell I would have rejected it as having been transported across the Pacific by a shell collector or some such artificial means, but the fact that it was taken alive puts a new light on the matter. As it is a deep-water shell, it is not too surprising that it has remained unknown.

The group of species referred to *Pterynotus* (*Pterochelus*) (type species: *Murex acanthopterus* LAMARCK) has a long and respectable geological history, first appearing in the Eocene of Europe with the species *Murex bispinosus* J. DE C. SOWERBY, 1823 (also known as *M. caillati* DESHAYES, 1865, not preoccupied by *M. caillati* PETIT, 1856). There is a species in the lower Oligocene of Mississippi, *Murex angelus* ALDRICH, which is considered to be a synonym of *M. bispinosus* by some authors and certainly is very closely related. There are also species in the Eocene of Australia which are probably of this group. Thus, the *Pterochelus* line achieved world-wide distribution in the geologic past. There are no American *Pterochelus* known from the Oligocene until the Recent, but the discovery of this new species at a depth of 600 feet suggests that the line retreated to deeper water and, as a result, has not been discovered in the fossil record. There is one Recent species in the Gulf of Mexico, *Murex* (*Pterynotus*) *ariomus* CLENCH & PÉREZ FARFANTE, 1945 (p. 39, pl. 20, figs. 5, 6), described from a unique specimen taken in 50 to 60 fathoms off Hollywood, Florida,

which is referable to this group, but this is the only species presently known outside of the Australian area. The discovery of an Eastern Pacific form is consequently of great interest.

Pterynotus (*Pterochelus*) *phillipsi* E. H. VOKES, spec. nov.

(Plate 25, Figures 1, 2)

Description: There are seven whorls in the holotype; the nuclear whorls not differentiated from the succeeding whorls. Axial ornamentation begins at the end of the first whorl and consists of three varices per whorl; each varix occurring immediately below the corresponding one on the preceding whorl so that an almost straight line is formed from apex to body whorl by the three columns of varices 120° apart. There is one small node between each pair of varices on the early whorls, but this becomes obsolete on the later whorls. The surface of the shell is marked by faint spiral threads and on the backs of the varices these are crossed by small axial growth lines giving rise to a slightly fimbriated surface texture. The apertural varix is marked by a strong channel at the shoulder of the whorl, this channel remaining as an open spine on the earlier varices. The channel is separated from the aperture by an inner labium which extends partially into it. There is a second smaller channel anterior to the principal one but the labium does not extend into this groove and it is seen only as a fold in the wing-like varix. The varices on the body whorl extend almost to the tip of the siphonal canal and are thin and flaring with three small folds. The outer lip is crenulated and projects perpendicularly to the flaring varix. The inner lip lightly covers the columella and stands free from it at the anterior end. The siphonal canal is long and recurved at the tip; the end of one previous canal remains as a spur off to one side. The canal is partially covered over

by a lamellar extension from the columella but is open by a narrow slit at all times.

Measurements of holotype: height, 28.4 mm; maximum diameter, including shoulder spines, 22 mm; length of aperture, 6.6 mm.

Type locality: Santa Barbara Channel, between Port Hueneme and Anacapa Island, California.

Holotype: Santa Barbara Museum of Natural History No. 22190.

Discussion: This new species bears a remarkable resemblance to the Australian *Pterochelus duffusi* IREDALE, 1936 (p. 323, pl. 23, fig. 11). In fact, had the California specimen been found in Australian waters, there would have been a strong temptation to consider it as that species. However, the geographical separation, combined with the subtle differences in the two forms, indicates that the erection of a new species is not out of line. As was stated above, the *Pterochelus* group had world-wide distribution in the geologic past and as both of these species strongly resemble the ancestral form, it may be assumed that they represent two different lineages which have continued virtually unchanged since the Eocene. The principal difference in the two modern species is that in *P. phillipsi* the labium folds into the shoulder channel, whereas in *P. duffusi* and all of the other species of *Pterochelus* the aperture opens directly into the channel in the manner shown in the photograph of *P. duffusi* (Figure 3). A second, less important, distinction is that of color. The California species is

entirely of a pale flesh color, but *P. duffusi* is marked by brown splotches along the margins on the siphonal canal, the outer lip, the edges of the shoulder channel, and along the suture line. These color markings can also be seen in the photograph. The specimen of *P. duffusi* figured is larger than that of *P. phillipsi*, but it has one more whorl. A specimen of *P. duffusi* with the same number of whorls as that of *P. phillipsi* would be of comparable size. It is interesting to note that both species have a decided tilt to the apex which is not seen in other species of *Pterochelus*.

It gives me great pleasure to name this species after Mr. Ted Phillips who was observant enough to realize that this specimen was unlike any previously known from the California area. The role played by the amateur malacologist is often unappreciated and it is hoped that the report of this discovery will serve as an incentive to all collectors, wherever they may be, giving them the realization that there is yet much that we do not know of the faunas here "in our own backyard."

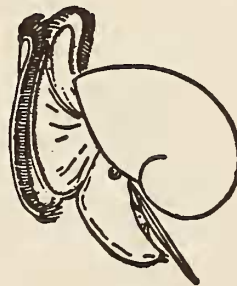
LITERATURE CITED

CLENCH, WILLIAM JAMES & I. PÉREZ FARFANTE

1945. The genus *Murex* in the western Atlantic.
Johnsonia 1 (17): 1-58; pls. 1-29 (29 May 1945)

IREDALE, TOM

1936. Australian molluscan notes, No. 2 Rec. Austral.
 Mus. 19: 267-340; pls. 20-24



Explanation of Plate 25

Figures 1, 2: *Pterynotus (Pterochelus) phillipsi* E. H. VOKES, spec. nov.

Holotype, Santa Barbara Museum of Natural History No. 22190.

Height 28.4 mm; maximum diameter, including shoulder spines, 22 mm. Santa Barbara Channel, between Port Hueneme and Anacapa Island, California, 100 fathoms (x 2)

Figure 3: *Pterynotus (Pterochelus) duffusi* (IREDALE).

Height, 46 mm; maximum diameter, including shoulder spines, 27.5 mm. Off Eden, New South Wales, 60 fathoms (x 1½)